MATHEMATICS REFERENCE SHEET

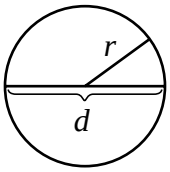
Use the information below to answer questions on the Mathematics section of the March 2004 Grade Eight Proficiency Assessment (GEPA).

$\pi \approx 3.14$ or $\frac{22}{7}$

Circle

Area = πr^2

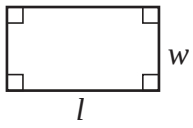
Circumference = $2\pi r$ = πd



Rectangle

Area = lw

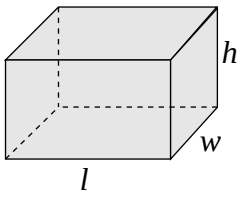
Perimeter = $2(l + w)$



Rectangular Prism

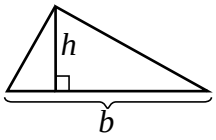
Volume = lwh

Surface Area = $2lw + 2wh + 2lh$



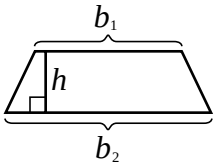
Triangle

Area = $\frac{1}{2}\ bh$



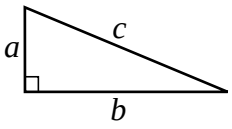
Trapezoid

Area = $\frac{1}{2}\ h(b_1 + b_2)$



Pythagorean Formula

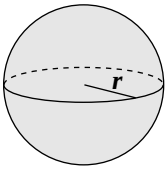
$c^2 = a^2 + b^2$



Sphere

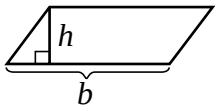
Volume = $\frac{4}{3}\ \pi r^3$

Surface Area = $4\pi r^2$



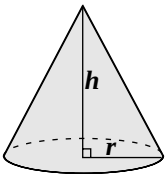
Parallelogram

Area = bh



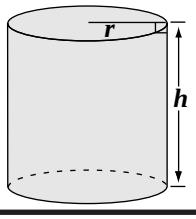
Cone

Volume = $\frac{1}{3}\ \pi r^2 h$



Cylinder

Volume = $\pi r^2 h$



The sum of the measures of the interior angles of a triangle = 180°

The measure of a circle is 360° or 2π radians

Distance = rate × time Interest = principal × rate × time

Simple Interest Formula: $A = p + prt$ Compound Interest Formula: $A = p\,(1 + r)^t$

A = amount after t years; p = principal; r = annual interest rate; t = number of years;

The number of r-combinations of a set of size n is given by $\frac{n!}{(n-r)!r!}$

The number of r-permutations of a set on n elements is given by $\frac{n!}{(n-r)!}$

Use the following equivalents for your calculations:

12 inches = 1 foot
3 feet = 1 yard
36 inches = 1 yard
5,280 feet = 1 mile
1,760 yards = 1 mile

10 millimeters = 1 centimeter
100 centimeters = 1 meter
1000 meters = 1 kilometer

16 ounces = 1 pound
2,000 pounds = 1 ton

1000 milligrams = 1 gram
100 centigrams = 1 gram
10 grams = 1 dekagram
1000 grams = 1 kilogram

60 seconds = 1 minute
60 minutes = 1 hour
24 hours = 1 day
7 days = 1 week
30 days = 1 month
52 weeks = 1 year

1000 watt hours = 1 kilowatt hour

8 fluid ounces = 1 cup
2 cups = 1 pint
2 pints = 1 quart
4 quarts = 1 gallon

1000 milliliters (mL) = 1 liter (L)